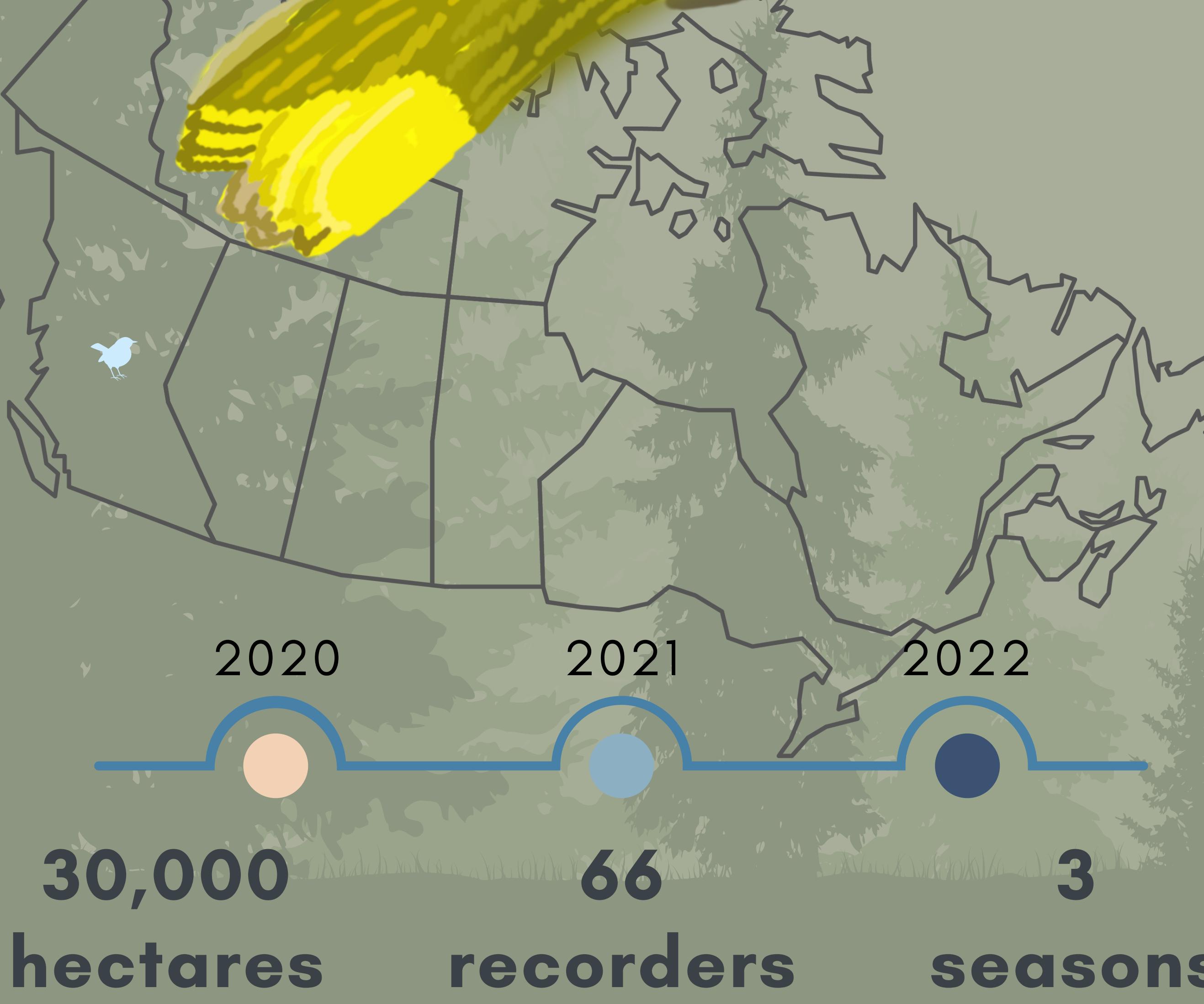


Large scale biodiversity assessment with bird sound

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Advances in hardware and software enabled broad-scaled acoustic monitoring of bird biodiversity.

We deployed a comprehensive project to explore the advantages and challenges of utilizing acoustic monitoring for assessing bird biodiversity.

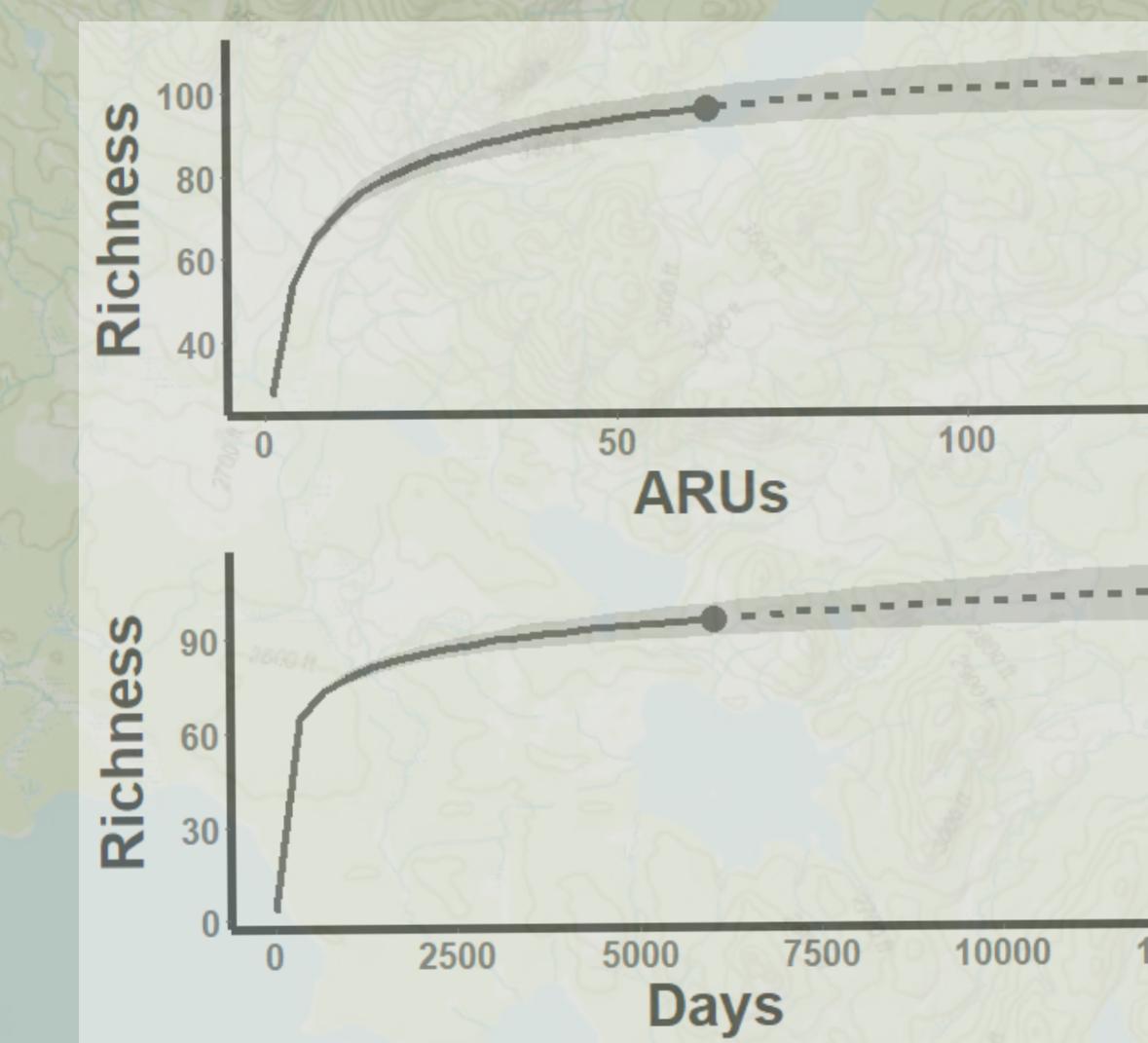


96 ARU **93 eBird** → **120 species**

- ✓ rare vocal species (i.e., crane, owls, woodpeckers)
- ✗ rare non-vocal species (i.e., collared dove, peregrine falcon) engage in auditory signals infrequently (i.e., bittern, grouse, hummingbird) infrequently encountered in recording site (i.e., grebe, ducks)

50 ARUs **2,500 days**

Sufficient ARU effort in surveying bird composition



Bird richness is higher in sites with older forest age (>80 yr).

ARUs, combined with BirdNET, are a time-, cost-, and labor-efficient method to survey bird communities across a large spatiotemporal scale. Subsequent analysis can inform important features for bird biodiversity.